



REISSUE PATENT APPLICATION

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Charles F. Pyne

Application No. 09/512,967

Filed: February 24, 2000

Original Patent No. 5,721,907

Issued: February 24, 1998

For: **REMOTE FILE TRANSFER
METHOD AND APPARATUS**

Date: July 28, 2001

Examiner: David A. Wiley

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RESPONSE

TO THE COMMISSIONER FOR PATENTS:

Claims 1-39 are in the application, of which claims 1, 5, 13, 16, 18, 21, 22, 24, 25, 26, 32, 33, and 37 are in independent form.

The application is objected to under 37 CFR § 1.172(a) because it lacks the written consent of all assignees owning an undivided interest in the patent. To comply with 37 CFR § 1.172 and the Examiner's request, applicant submits an executed Consent of Assignee (Form PTO/SB/53).

Claims 1-39 stand rejected under 35 U.S.C. § 102(e) for anticipation by Squibb, U.S. Patent No. 5,479,654. Applicant traverses this rejection for the following reasons.

Applicant notes that the Examiner cited Squibb in the application for the original patent ("original application"). In particular, Squibb was cited as a secondary reference in support of an obviousness rejection of all of the then-pending claims. Applicant traversed and overcame this rejection, securing allowance of all of the pending claims on the strength of arguments set forth in his December 30, 1996

Amendment. These arguments, as restated below, apply equally to all claims pending in the present patent application.

First, Squibb does not describe the transmission of keys from a first computer to a second computer; rather, Squibb compares an earlier file and an updated file, both of which are located on the same computer. As was stated in the December 30, 1996 Amendment filed in the original application, “[t]ransmitting keys from a first computer to a second computer is not disclosed in the references. . . . Squibb creates a ‘difference signature’ file based upon the differences between an earlier file and an updated file on the same computer” (emphasis in original).

Second, applicant describes a method that entails calculation of and an apparatus that calculates a key value for blocks of data, whereas the Squibb technique entails multiple recalculations of the keys for the same blocks in the source file multiple times. Specifically, the December 30, 1996 Amendment states that

“Regarding Squibb, whereas applicant takes each source block in sequence, calculating and comparing its key with multiple reference file keys until a match is found, Squibb takes each reference key in sequence, comparing each reference key with multiple source keys, thereby requiring many passes through the source file and recalculation of the source keys when searching for matches for subsequent reference keys. In other words, Squibb starts with the first reference key and goes through the source file, calculating source keys to locate a block in the source file corresponding to the first reference key. If a match is found, rather than ‘transferring an indication of such to the receiving computer’ as recited in claim 7, Squibb records the position of the matching block in a ‘match table.’ The match table includes a list of index numbers for blocks in the reference file and, for each index number, the position, from the beginning of the source file, of any identical block in the source file. After a match is found or the end of the file is reached, Squibb takes the next reference key

and goes through the source file again, recalculating the source keys to find a match for the second reference key. Squibb, therefore, recalculates the keys for the same blocks in the source file many times.

“The differences between the [pending claims] and Squibb are not mere design choices but result from the different goals of the two systems. Squibb, entitled ‘Apparatus and Method for Reconstructing a File from a Difference Signature and an Original File,’ creates a difference signature file as a permanent record of file differences. The difference signature is used for archiving and later reconstruction of a source file. To create the difference signature, Squibb first creates the match table (Fig. 5 and col. 1, line 57 to col. 2, line 29) as described above and then uses the match table and the source file to create a ‘transition table’ (Fig. 6 and col. 2, line 30-43), which shows the actual data added to or omitted from the reference file to create the source file. A third program can operate on the transition table and the earlier file to create a copy of the updated file.

* * *

“As described above, Squibb compares each reference key sequentially with multiple source keys. Also, Squibb does not disclose means for transmitting a control signal from the source unit to the receiving unit to cause the receiving unit to use a group of data at the receiving unit.”

Third, the Squibb technique creates a difference file as a permanent record of file differences. Specifically, the Squibb technique entails creation of a match table from which is created a permanent transition table that shows added or omitted data. The inventions claimed in the present patent application do not create such a table as an archivable, permanent record. As the December 30, 1996 Amendment stated,

“The method of claim 7 creates an updated file from a reference file at a receiving computer while minimizing transmission time. The method of claim 7, therefore, is not required to create a table as a archivable, permanent record of the changes to a file and, therefore, is not constrained as is Squibb.

* * *

“Squibb writes an indication of a match into a match file on the same computer that includes both the earlier and the updated file. Squibb then creates a transition table and later runs an additional program to create a duplicate file from the transition table and the source file.

* * *

“[U]pon finding a match, Squibb notes it in a match table. In instances in which a match is not found, Squibb writes nothing in the match table, increments to the next reference key and searches the source file for a matching source key. Squibb does not transmit an indication of a match to the receiving computer as an instruction to copy the block of data from the reference file to the duplicate file. Moreover, Squibb does not, when a match is not found, transmit data from the source file to the receiving computer and add transmitted bytes to the duplicate file.”

Fourth, the purposes of the disclosures of Squibb and the present patent application differ; Squibb describes a system for archiving data whereas the present patent application describes a system for transmitting data. Specifically, the December 30, 1996 Amendment states that:

“Squibb also describes a backup system. According to Squibb, at the start of a day, a token table is created corresponding to an ‘earlier’ file (col. 5, line 14-24). At the end of the day, after the earlier file has been updated, the token table-

is used to create a 'match' table, specifying the position within the updated file of data blocks from the earlier file. From the match table, a 'transition' table is created that specifies the insertions and deletions at unmatching positions indicated by the match file. The transition table can then be sent off-site for storage. The transition file can later be used, along with a copy of the earlier file, to recreate the updated file.

"Applicant's system is a method and apparatus for transferring data. In a preferred embodiment, a receiving computer creates a token table for blocks of data in a file and transmits the token table to a source computer. The source computer calculates a token for a first block of data in a similar file and compares that token to the tokens in the token table from the receiving computer until a match is found or the end of the file is reached. If a match is found, an indication of the match is sent to the receiving computer, which writes the corresponding block into an updated file without requiring the block to be sent from the source computer.


"If no match is found, the source computer shifts the current block over by a fixed amount, such as one byte, and sends the byte that was removed from the current block to the receiving computer to be written into the updated file. The source computer then calculates a new token for the now-current block and compares the new token to the tokens in the token table until a match is found. This procedure continues until the file at the receiving computer is a duplicate of the file at the source computer. Although the preferred embodiment sends data or an instruction to the receiving computer immediately after a match is found or a no match condition is determined, all claims are not limited to such an embodiment. The claims can cover, literally or as equivalents, some embodiments, different from those described.

in Squibb, in which transmissions of match indications and data are delayed and stored in a file in the sending computer before being sent to the receiving computer.”

The above arguments distinguish Squibb from original claims 1-32, as well as added claims 33-39. Applicant believes, therefore, his application is in condition for allowance and respectfully requests the same.

Respectfully submitted,

Charles F. Pyne

By 
Paul S. Angello
Registration No. 30,991

STOEL RIVES LLP
900 SW Fifth Avenue, Suite 2600
Portland, Oregon 97204-1268
Telephone: (503) 224-3380
Facsimile: (503) 220-2480
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